SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B1 (A-11): sc-377000

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A unique family of cysteine proteases has been described that differs in sequence, structure and substrate specificity from any previously described protease family. This family, termed CED-3/ICE, function as key components of the apoptotic machinery and act to destroy specific target proteins which are critical to cellular longevity. Nuclear Lamins are critical to maintaining the integrity of the nuclear envelope and cellular morphology as components of the nuclear lamina, a fibrous layer on the nucleoplasmic side of the inner nuclear membrane which is thought to provide a framework for the nuclear envelope and may also interact with chromatin. B-type Lamins, such as Lamin B1, undergo a series of modifications, such as farnesylation and phosphorylation. Lamin B1 is a 586 amino acid protein that is encoded by a gene which, when mutated, is involved in the pathogenesis of autosomal dominant adult-onset leukodystrophy (ADLD), a disease characterized by cerebellar dysfunction and symmetric demyelination of the central nervous system.

CHROMOSOMAL LOCATION

Genetic locus: LMNB1 (human) mapping to 5q23.2; Lmnb1 (mouse) mapping to 18 D3.

SOURCE

Lamin B1 (A-11) is a mouse monoclonal antibody raised against amino acids 401-490 mapping near the C-terminus of Lamin B1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Lamin B1 (A-11) is available conjugated to agarose (sc-377000 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377000 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377000 PE), fluorescein (sc-377000 FITC), Alexa Fluor® 488 (sc-377000 AF488), Alexa Fluor® 546 (sc-377000 AF546), Alexa Fluor® 594 (sc-377000 AF594) or Alexa Fluor® 647 (sc-377000 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377000 AF680) or Alexa Fluor® 790 (sc-377000 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Lamin B1 (A-11) is recommended for detection of Lamin B1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Lamin B1 (A-11) is also recommended for detection of Lamin B1 in additional species, including equine, canine, bovine and porcine.

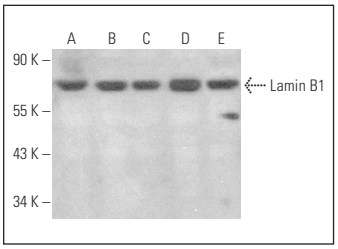
Suitable for use as control antibody for Lamin B1 siRNA (h): sc-29386, Lamin B1 siRNA (m): sc-35779, Lamin B1 shRNA Plasmid (h): sc-29386-SH, Lamin B1 shRNA Plasmid (m): sc-35779-SH, Lamin B1 shRNA (h) Lentiviral Particles: sc-29386-V and Lamin B1 shRNA (m) Lentiviral Particles: sc-35779-V.

Molecular Weight of Lamin B1: 67 kDa.

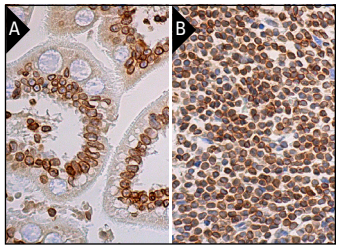
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Lamin B1 (A-11): sc-377000. Western blot analysis of Lamin B1 expression in NIH/3T3 (**A**), HeLa (**B**), MOLT-4 (**C**), CCRF-CEM (**D**) and MCF7 (**E**) whole cell lysates.



Lamin B1 (A-11): sc-377000. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear envelope staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear envelope staining of cells in germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Soltész, B., et al. 2013. New and recurrent gain-of-function STAT1 mutations in patients with chronic mucocutaneous candidiasis from eastern and central Europe. J. Med. Genet. 50: 567-578.
2. Shambayati, M., et al. 2014. Central inflammatory response to experimental stroke is inhibited by a neuroprotective dose of dietary soy. Brain Res. 1593: 76-82.
3. Yildiz, M., et al. 2015. Activating STAT6 mutations in follicular lymphoma. Blood 125: 668-679.
4. Li, R., et al. 2016. Increased βTrCP are associated with imiquimod-induced psoriasis-like skin inflammation in mice via NFκB signaling pathway. Gene 592: 164-171.
5. Pace, E., et al. 2017. Effects of carbocysteine and beclomethasone on histone acetylation/deacetylation processes in cigarette smoke exposed bronchial epithelial cells. J. Cell. Physiol. 232: 2851-2859.
6. Tamberg, N., et al. 2018. Keap1-MCM3 interaction is a potential coordinator of molecular machineries of antioxidant response and genomic DNA replication in metazoa. Sci. Rep. 8: 12136.
7. Liu, P., et al. 2019. Wound healing potential of spirulina protein on CCD-986sk cells. Mar. Drugs 17: 130.
8. Yu, B., et al. 2020. Mitochondrial phosphatase PGAM5 modulates cellular senescence by regulating mitochondrial dynamics. Nat. Commun. 11: 2549.
9. Tan, A., et al. 2021. TFEB regulates pluripotency transcriptional network in mouse embryonic stem cells independent of autophagy-lysosomal biogenesis. Cell Death Dis. 12: 343.

RESEARCH USE

For research use only, not for use in diagnostic procedures.